Bruhath Bengaluru Mahanagara Palike

QUALITY ASSURANCE/QUALITY CONTROL REPORT

Office of the Chief Engineer (Quality Assurance/Control) Annexure-05,
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QUALITY ASSURANCE REPORT/QUALITY CONTROL REPORT

CE/QA/PR/ 195 /2022-23, DATE: 09/12/23		
Name of Work	:	Developments of roads and drains at Machohalli, Kadabagere, Gollarahatti (Kitthanahalli), Singanayakanahalli Grama Panchayathi limits and surrounding areas of Yelahanka assembly constituency under Amrutha Nagarothana Grants Package – 06 Estimated cost 1600.00 Lakhs
Job Code	:	003-23-000001
Bill No.	:	**1st & Part Bill**
Type of Test Performed	:	Rebound Hammer test as per IS13311-(2)-1992.
Materials on which Tests Was Performed	:	1. C C Road (M30)
Officers present during inspection	:	1.Chandrakanthraj AE – Project division Yelahanka 2.Sri. Rajanikanth Malli AEE- Project division Yelahanka 3.Sri Kiran.B. EE-Quality Assurance 4. Sri C. Shridhar. AEE-Quality Assurance
Project Management Consultants	:	M/s Silicon Consulting Engineers
Observations	:	➢ NDT (Rebound hammer test) was conducted in presence of AE & AEE (Project division Yelahanka) along with Project Management Consultants representative. ➢ The work was inspected from Quality Assurance Division on 09.12.2022 when C C Road work was under progress at Narasimaiah house road Ravuthanahalli. Concrete cubes were casted and tests were conducted after 7days & 28days test reports submitted by PMC is here by furnished. ➢ The Rebound Hammer Test was conducted randomly on CC Road (M30) are recorded by the PMC consultants. ➢ The readings of Rebound Hammer Test are tabulated and analysis of test results done by PMC is here by furnished. ➢ The location wise test results are reproduced in the tables shown below.
Test Locations	:	Location 1: Seegehalli, Anjanadri Nilaya Road. (Infront of Vacant Land) Location 2: Lakshmi Layout, 7th cross. (Infront of Mathrusri Nilaya house) Location 3: Govt School Road, Kadabagere.(Infront of Mathrusri Villa,#164/4, Opp to Shetty Stores) Location 4: Kuvempu Badavane, Kadabagere. (Opp. To Shanthinivasa house, #2/A) Location 5: Spoorthi Layout, Kadabagere. (Infront of Ramesh Patil house, #53)

09/12/23

Table-01: Rebound Hammer Test Results for Location-1

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2) for 28 days	Impact Direction
Sample Tested Location at Anjanadri Nilaya Road, Seegehalli. (Infront of Vacant Land)					
1	C C Road (M30)	32	31.88	33.00	Vertical down
2		32			
3		32			
4		34			
5		29			
6		30			
7		34			
8		34			
9		30			

Table-02: Rebound Hammer Test Results for Location-2

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2) for 28 days	Impact Direction
Sample Tested Location at Lakshmi Layout, 7th cross. (Infront of Mathrusri Nilaya house)					
1	C C Road (M30)	31	31.44	32.00	Vertical down
2		30			
3		34			
4		34			
5		29			
6		31			
7		30			
8		32			
9		32			

Table-03: Rebound Hammer Test Results for Location-3

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2) for 28 days	Impact Direction
Sample Tested Location at Govt School Road, Kadabagere.(Infront of Mathrusri Villa,#164/4, Opp to Shetty Stores)					
1	C C Road (M30)	30	30.77	31.00	Vertical down
2		28			
3		30			
4		32			
5		30			
6		31			
7		32			
8		33			
9		31			
1	C C Road (M30)	36	32.55	34.00	Vertical down
2		34			
3		32			
4		32			
5		30			
6		31			
7		31			
8		32			
9		35			

09/2/23

Table-04: Rebound Hammer Test Results for Location-4

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2) for 28 days	Impact Direction
Sample Tested Location at Kuvempu Badavane, Kadabagere . (Opp. To Shanthinivasa house, #2/A)					
1	C C Road (M30)	30	31.11	31.00	Vertical down
2		30			
3		29			
4		32			
5		30			
6		31			
7		33			
8		33			
9		32			

Table-05: Rebound Hammer Test Results for Location-5

Sl. No.	Member	Rebound Hammer Number	Average reading	Compressive Strength (N/mm2) for 28 days	Impact Direction
Sample Tested Location at Spoorthi Layout, Kadabagere layout. (Front of Ramesh Patil house, #53)					
1	C C Road (M30)	31	31.44	32.00	Vertical down
2		35			
3		30			
4		31			
5		30			
6		32			
7		32			
8		30			
9		32			

TEST REPORT OF CEMENT CONCRETE CUBES

Location: Narasimaiah house road Ravuthanahalli.

Sample grade/Age: M30 / 7Days Compressive Strength

Sl. No.	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Failure Load	Compressive strength	Average Compressive Strength
			(mm)	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)
1	09/12/22	16/12/22	150x150x150	22500	480	21.33	22.00
2	09/12/22	16/12/22	150x150x150	22500	505	22.44	
3	09/12/22	16/12/22	150x150x150	22500	500	22.22	

Location: Narasimaiah house road Ravuthanahalli.

Sample grade/Age: M30 / 28Days Compressive Strength

Sl. No.	Date of Casting	Date of Testing	Dimension of the Specimen	Cross sectional area	Failure Load	Compressive strength	Average Compressive Strength
			(mm)	(Sq.mm)	(KN)	(N/mm2)	(N/mm2)
1	09/12/22	06/01/23	150x150x150	22500	720	32.00	32.00
2	09/12/22	06/01/23	150x150x150	22500	715	31.78	
3	09/12/22	06/01/23	150x150x150	22500	725	32.22	

09/1/23

09/1/23

Conclusion:

The file containing **1st & part bill** has been submitted for the above work to QA department on 31.01.2023 requesting for spot inspection. Engineers of QA/QC division have visited the work spot on 07.02.2023

During the inspection, it was understood that the items found in the bill, have been executed by the contractor from the documents provided by PMC team and from the file submitted.

PMC team was instructed to assess the strength of concrete used Cement Concrete Road (M30) by Rebound Hammer Test .The Rebound hammer test were conducted by PMC in presence of engineer in charge of work.

From the test results furnished by PMC consultants, it is concluded that the results of the samples collected are in accordance with the standards/ specifications mention in the IRC codes. However, the results submitted by the PMC have been reproduced here with for further needful action. The results checked by QA/QC relates only for item tested in the particular location randomly.

Further, QA/QC directs the PMC and Engineer in-charge of the work that all materials used for the work shall be inspected, tested and accepted as per the relevant specifications before incorporation in the work. The frequencies and methods of sampling and testing materials, including those required for definite purpose and not covered by MORT&H specifications shall be in accordance to the relevant IRC or BIS or AASHTO/ASTM/BS standards in order of priority.

All materials or work not conforming to the requirements of the specifications shall be considered unacceptable and rejected. The unacceptable materials or works that are rejected shall be immediately removed unless the defects are corrected and approved by the engineer in-charge of work.

This work was inspected on 09.12.2022 as per the request of engineer in charge of work when C C Road work was under progress at Narasimaiah house road Ravuthanahalli. Further work progress / request for inspection was not intimated to QA division apart from the above-mentioned dates & now presently the bill submitted for the work. Therefore, randomly NDT (Rebound Hammer Tests) were conducted as explained in this report.

The concerned Engineer in charge of the work shall follow the direction issued by Chief Commissioner Letter number dated 01.08.2022 and 14.09.2022 and take necessary action as appropriate in accordance with the law.

Note: -

This report by QA/QC is pertaining to the work carried out in **1st & part bill** only. Therefore, further QA/QC reports shall be obtained for the items of work carried out in future Running Account bill / Final bill.

Safety precautions shall be taken at work spot to prevent any mishap, injuries or loss of life to general public and construction workers according to guidelines laid down in code of practices.

Engineer in charge of work shall obtain requisite approval and Implement traffic management plan prior to commencement of work.

Engineer in charge of work shall display details of work, work code, cost of project, start and completion date, and information of Engineer in charge of work with contact numbers at work spot.

Engineer in charge of work and Agency shall ensure that if any damages or defects occur pertaining to the executed work within the Defect Liability period (DLP). The same shall be rectified immediately on top priority without fail.

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
ಗುಣಮಟ್ಟವನ್ನು/ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ ಯಲಹಂಕ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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09/2/23

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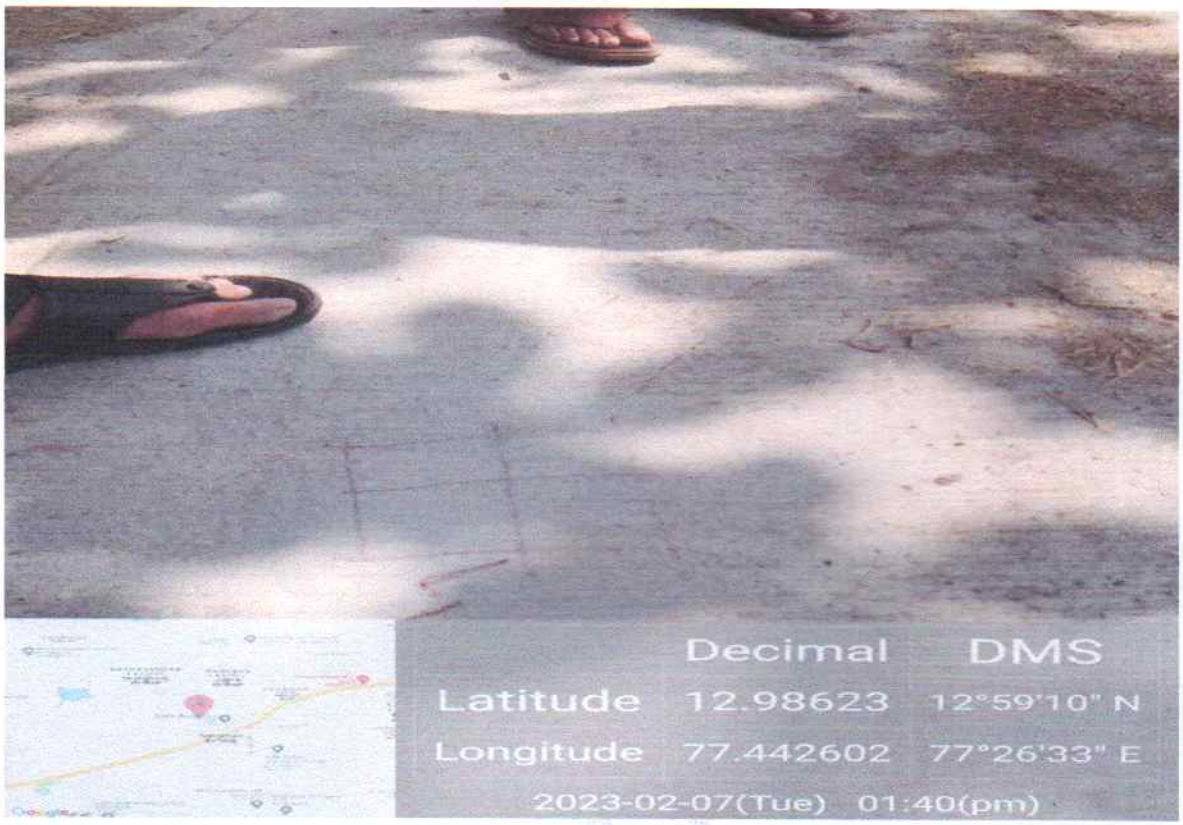
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 1: Seegehalli, Anjanadri Nilaya Road. (Infront of Vacant Land)

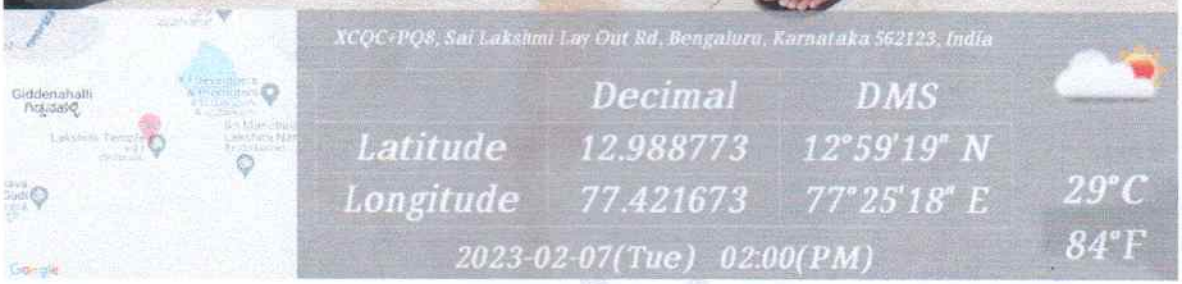


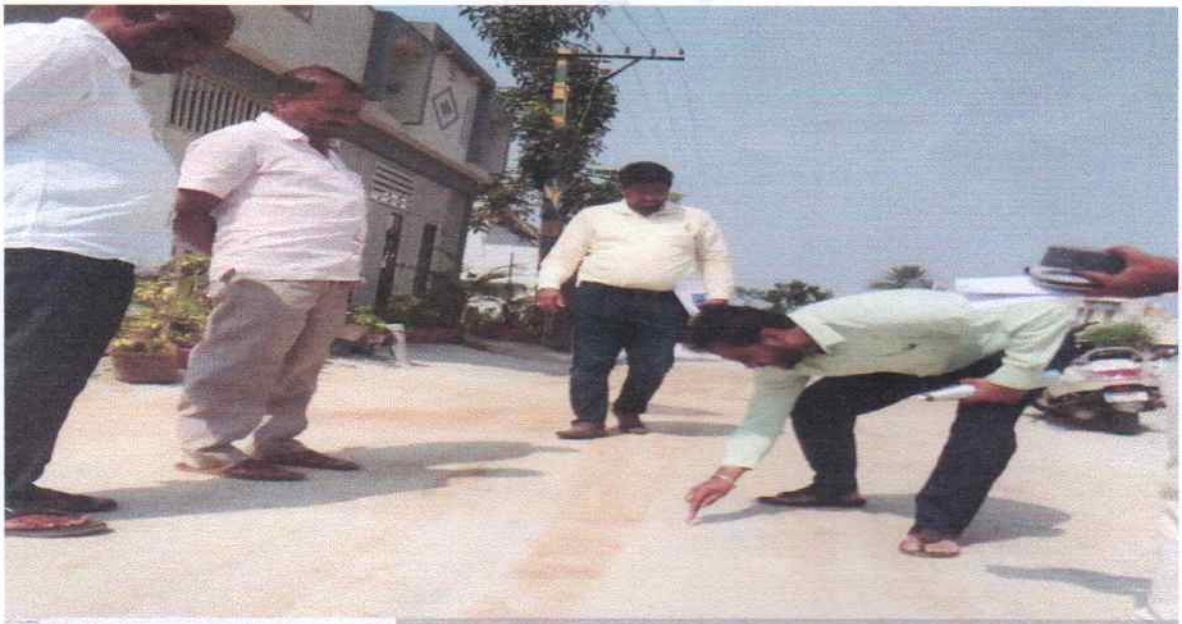
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಗುಣನಿಯಂತ್ರಣ ಉಪ-ವಿಭಾಗ, ಯಲಹಂಕ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

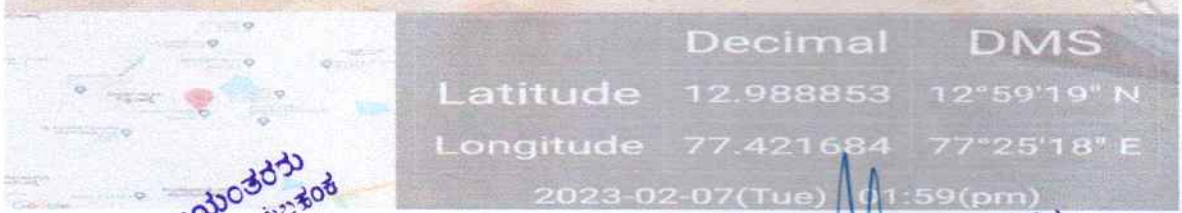
ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು ಗುಣನಿಯಂತ್ರಣ ವಿಭಾಗ-01 ಯಲಹಂಕ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

ಮುಖ್ಯ ಅಭಿಯಂತರರು ಗುಣನಿಯಂತ್ರಣ ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 2: Lakshmi Layout, 7th cross. (Infront of Mathrusri Nilaya house)







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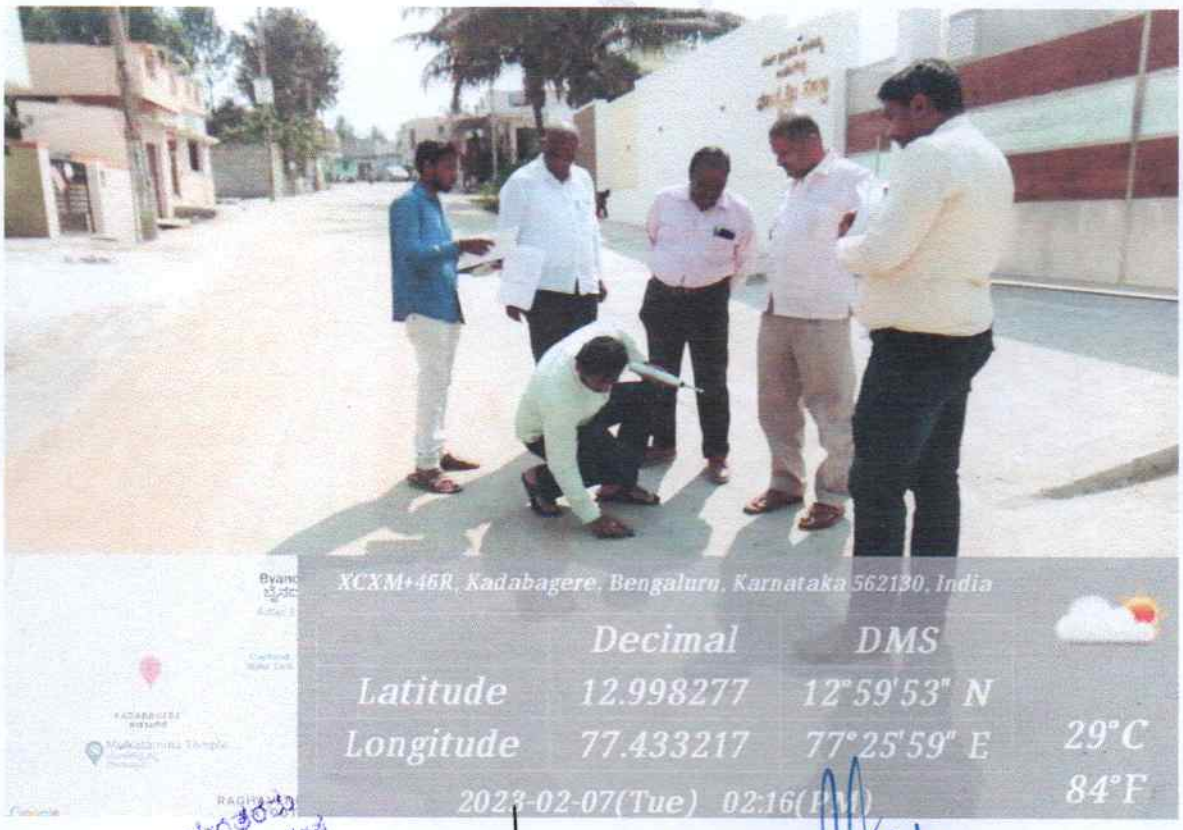
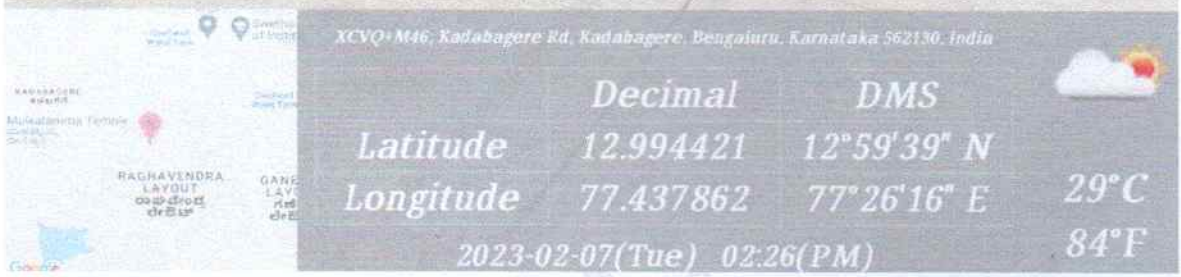
09/2/23

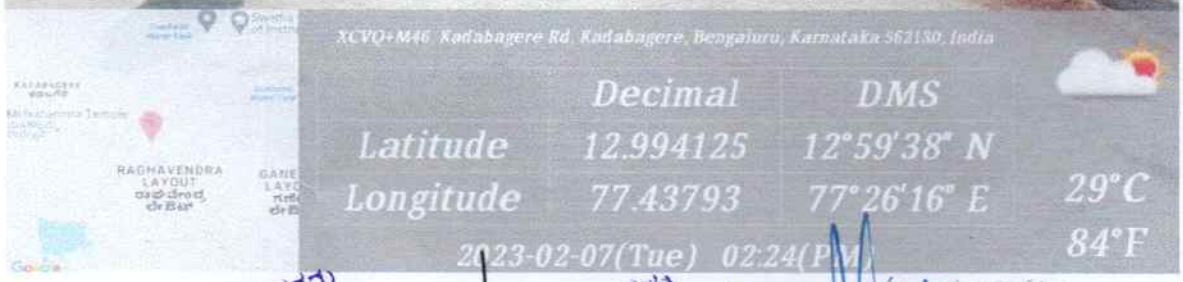
ಮುಖ್ಯ ಅಭಿಯಂತರರು
ಗುಣಮಟ್ಟ ಭರವಸೆ/ಗುಣನಿಯಂತ್ರಣ
ಬೃಹತ್ ಬೆಂಗಳೂರು ಮಹಾನಗರ ಪಾಲಿಕೆ

Location 3: Govt School Road, Kadabagere.(Infront of Mathrusri Villa,#164/4, Opp to Shetty Stores)



Location 4: Kuvempu Badavane, Kadabagere. (Opp. To Shanthinivasa house, #2/A)





ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರರು
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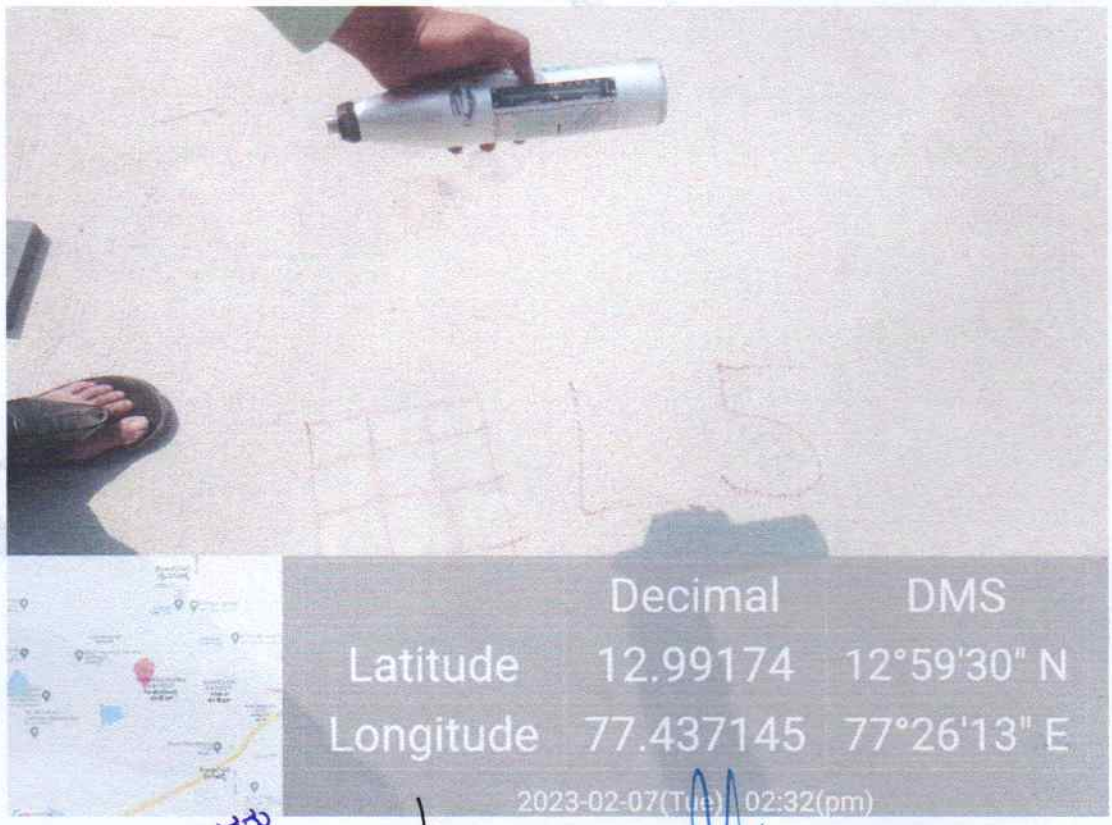
Location 5: Spoorthi Layout, Kadabagere layout. (Front of Ramesh Patil house, #53)



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